

WHAT IS CLAIMED IS:

5            1.    A diffuser-augmented wind-turbine assembly, the  
assembly having an diffuser outer-housing shell with a  
cylindrical portion rotatably supporting a rotor drum having  
an inner surface rigidly supporting a plurality of turbine  
blades, the rotor drum being in driving engagement with a  
10    rotatable electrical generator.

          2.    The assembly of claim 1, wherein the rotor-drum  
inner surface is flush with adjoining inner surfaces of the  
diffuser shell.

15            3.    The assembly of claim 1, wherein the rotor drum and  
turbine blades are ingerally formed.

          4.    The assembly of claim 1, wherein the electrical  
20    generator comprises a cylindrical magnet assembly secured to  
an outer surface of the rotor drum to rotate therewith, and a  
cylindrical stator-coil assembly secured to an inner surface  
of the diffuser shell, and extending around and slightly  
spaced from the magnet assembly.

25            5.    The assembly of claim 1, and further comprising  
space-apart ring bearings adjacent opposite ends of the rotor  
drum for rotatably supporting the drum within the diffuser  
shell.

30            6.    The assembly of claim 1, and further comprising a  
plurality of inlet guide vanes secured within an inlet end of  
the diffuser shell upstream of the turbine blades.

35

1      **52443/RRP/C1018**

7.    The assembly of claim 1, wherein the electrical  
generator is drum shaped, and secured to the diffuser shell  
5      radially outwardly of the rotor drum, and further comprising  
a flexible belt engaged with the drum and generator.

10

15

20

25

30

35